10" Compound Power Miter Saw

(Model MS250)

INSTRUCTION MANUAL

Product covered by
U.S. Patent No.
5,347,902
5,235,889

PART NO. 905573 - 07-03-03

DELTA® ShopMaster™

To learn more about DELTA MACHINERY
visit our website at: **www.deltamachinery.com.**

ESPAÑOL: PÁGINA 23

For Parts, Service, Warranty or other Assistance,

please call 1-800-223-7278 (In Canada call 1-800-463-3582).

SAFETY GUIDELINES - DEFINITIONS

This manual contains information that is important for you to know and understand. This information relates to protecting YOUR SAFETY and PREVENTING EQUIPMENT PROBLEMS. To help you recognize this information, we use the symbols to the right. Please read the manual and pay attention to these sections.

⚠DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION Used without the safety alert symbol indicates potentially hazardous situation which, if not avoided, may result in property damage.

⚠WARNING **SOME DUST CREATED BY POWER SANDING, SAWING, GRINDING, DRILLING, AND OTHER CONSTRUCTION ACTIVITIES** contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

· lead from lead-based paints,
· crystalline silica from bricks and cement and other masonry products, and
· arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, always wear **MSHA/NIOSH** approved, properly fitting face mask or respirator when using such tools.

GENERAL SAFETY RULES

⚠WARNING **READ AND UNDERSTAND ALL WARNINGS AND OPERATING INSTRUCTIONS BEFORE USING THIS EQUIPMENT. Failure to follow all instructions listed below, may result in electric shock, fire, and/or serious personal injury or property damage.**

IMPORTANT SAFETY INSTRUCTIONS

Woodworking can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result. Safety equipment such as guards, push sticks, hold-downs, featherboards, goggles, dust masks and hearing protection can reduce your potential for injury. But even the best guard won't make up for poor judgment, carelessness or inattention. Always use common sense and exercise caution in the workshop. If a procedure feels dangerous, don't try it. Figure out an alternative procedure that feels safer. **REMEMBER:** Your personal safety is your responsibility. For additional information please visit our website **www.deltamachinery.com.**

⚠WARNING This machine was designed for certain applications only. Delta Machinery strongly recommends that this machine not be modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, **DO NOT** use the machine until you have first contacted Delta to determine if it can or should be performed on the product.

Technical Service Manager
Delta Machinery
4825 Highway 45 North
Jackson, TN 38305
(IN CANADA: 505 SOUTHGATE DRIVE, GUELPH, ONTARIO N1H 6M7)

⚠WARNING FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY.

1. **FOR YOUR OWN SAFETY, READ THE INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.** Learning the machine's application, limitations, and specific hazards will greatly minimize the possibility of accidents and injury.
2. **USE CERTIFIED SAFETY EQUIPMENT.** Eye protection equipment should comply with ANSI Z87.1 standards, hearing equipment should comply with ANSI S3.19 standards, and dust mask protection should comply with MSHA/NIOSH certified respirator standards. Splinters, air-borne debris, and dust can cause irritation, injury, and/or illness.
3. **DRESS PROPERLY.** Do not wear tie, gloves, or loose clothing. Remove watch, rings, and other jewelry. Roll up your sleeves. Clothing or jewelry caught in moving parts can cause injury.
4. **DO NOT USE THE MACHINE IN A DANGEROUS ENVIRONMENT.** The use of power tools in damp or wet locations or in rain can cause shock or electrocution. Keep your work area well-lit to prevent tripping or placing arms, hands, and fingers in danger.
5. **MAINTAIN ALL TOOLS AND MACHINES IN PEAK CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories. Poorly maintained tools and machines can further damage the tool or machine and/or cause injury.
6. **CHECK FOR DAMAGED PARTS.** Before using the machine, check for any damaged parts. Check for alignment of moving parts, binding of moving parts, breakage of parts, and any other conditions that may affect its operation. A guard or any other part that is damaged **should be properly repaired or replaced.** Damaged parts can cause further damage to the machine and/or injury.
7. **KEEP THE WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
8. **KEEP CHILDREN AND VISITORS AWAY.** Your shop is a potentially dangerous environment. Children and visitors can be injured.
9. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure that the switch is in the "OFF" position before plugging in the power cord. In the event of a power failure, move the switch to the "OFF" position. An accidental start-up can cause injury.
10. **USE THE GUARDS.** Check to see that all guards are in place, secured, and working correctly to prevent injury.
11. **REMOVE ADJUSTING KEYS AND WRENCHES BEFORE STARTING THE MACHINE.** Tools, scrap pieces, and other debris can be thrown at high speed, causing injury.
12. **USE THE RIGHT MACHINE.** Don't force a machine or an attachment to do a job for which it was not designed. Damage to the machine and/or injury may result.
13. **USE RECOMMENDED ACCESSORIES.** The use of accessories and attachments not recommended by Delta may cause damage to the machine or injury to the user.
14. **USE THE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating. See the Extension Cord Chart for the correct size depending on the cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
15. **SECURE THE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. Loss of control of a workpiece can cause injury.
16. **FEED THE WORKPIECE AGAINST THE DIRECTION OF THE ROTATION OF THE BLADE, CUTTER, OR ABRASIVE SURFACE.** Feeding it from the other direction will cause the workpiece to be thrown out at high speed.
17. **DON'T FORCE THE WORKPIECE ON THE MACHINE.** Damage to the machine and/or injury may result.
18. **DON'T OVERREACH.** Loss of balance can make you fall into a working machine, causing injury.
19. **NEVER STAND ON THE MACHINE.** Injury could occur if the tool tips, or if you accidentally contact the cutting tool.
20. **NEVER LEAVE THE MACHINE RUNNING UNATTENDED. TURN THE POWER OFF.** Don't leave the machine until it comes to a complete stop. A child or visitor could be injured.
21. **TURN THE MACHINE "OFF", AND DISCONNECT THE MACHINE FROM THE POWER SOURCE** before installing or removing accessories, before adjusting or changing set-ups, or when making repairs. An accidental start-up can cause injury.
22. **MAKE YOUR WORKSHOP CHILDPROOF WITH PADLOCKS, MASTER SWITCHES, OR BY REMOVING STARTER KEYS.** The accidental start-up of a machine by a child or visitor could cause injury.
23. **STAY ALERT, WATCH WHAT YOU ARE DOING, AND USE COMMON SENSE. DO NOT USE THE MACHINE WHEN YOU ARE TIRED OR UNDER THE INFLUENCE OF DRUGS, ALCOHOL, OR MEDICATION.** A moment of inattention while operating power tools may result in injury.
24. **THE DUST GENERATED** by certain woods and wood products can be injurious to your health. Always operate machinery in well-ventilated areas, and provide for proper dust removal. Use wood dust collection systems whenever possible.

ADDITIONAL SAFETY RULES FOR MITER SAWS

⚠WARNING **FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY.**

1. **DO NOT OPERATE THIS MACHINE** until it is completely assembled and installed according to the instructions. A machine incorrectly assembled can cause serious injury.
2. **OBTAIN ADVICE** from your supervisor, instructor, or another qualified person if you are not thoroughly familiar with the operation of this machine. Knowledge is safety.
3. **FOLLOW ALL WIRING CODES** and recommended electrical connections to prevent shock or electrocution.
4. **SECURE THE MACHINE TO A SUPPORTING SURFACE.** Vibration can possibly cause the machine to slide, walk, or tip over, causing serious injury.
5. **USE ONLY CROSSCUT SAW BLADES.** Use only zero-degree or negative hook angles when using carbide-tipped blades. Do not use blades with deep gullets. These can deflect and contact the guard, and can cause damage to the machine and/or serious injury.
6. **USE ONLY BLADES OF THE CORRECT SIZE AND TYPE** specified for this tool to prevent damage to the machine and/or serious injury.
7. **USE A SHARP BLADE.** Check the blade to see if it runs true and is free from vibration. A dull blade or a vibrating blade can cause damage to the machine and/or serious injury.
8. **INSPECT BLADE FOR CRACKS** or other damage prior to operation. A cracked or damaged blade can come apart and pieces can be thrown at high speeds, causing serious injury. Replace cracked or damaged blades immediately.
9. **CLEAN THE BLADE AND BLADE FLANGES** prior to operation. Cleaning the blade and flanges allows you to check for any damage to the blade or flanges. A cracked or damaged blade or flange can come apart and pieces can be thrown at high speeds, causing serious injury.
10. **USE ONLY BLADE FLANGES** specified for this tool to prevent damage to the machine and/or serious injury.
11. **CLEAR THE AREA OF FLAMMABLE LIQUIDS** and/or gas prior to operation. Sparks can occur that would ignite the liquids and cause a fire or an explosion.
12. **CLEAN THE MOTOR AIR SLOTS** of chips and sawdust. Clogged motor air slots can cause the machine to overheat, damaging the machine and possibly causing a short which could cause serious injury.
13. **TIGHTEN THE TABLE CLAMP HANDLE** and any other clamps prior to operation. Loose clamps can cause parts or the workpiece to be thrown at high speeds.
14. **NEVER START THE TOOL** with the blade against the workpiece. The workpiece can be thrown, causing serious injury.
15. **KEEP ARMS, HANDS, AND FINGERS** away from the blade to prevent severe cuts. Clamp all workpieces that would cause your hand to be in the "Table Hazard Zone" (within the red lines).
16. **WHEN CUTTING WITH A COMPOUND SLIDING MITER SAW, PUSH THE SAW FORWARD (AWAY FROM YOU)** and toward the fence. Pulling the saw toward you can cause the saw to kick upward and toward you.
17. **WHEN USING A SLIDING MITER SAW AS A REGULAR MITER SAW, LOCK THE SLIDE MECHANISM IN PLACE**. If the slide mechanism is not locked, the saw can kick back toward you.
18. **ALLOW THE MOTOR TO COME TO FULL SPEED** prior to starting cut. Starting the cut too soon can cause damage to the machine or blade and/or serious injury.
19. **NEVER REACH AROUND** or behind the saw blade. A moving blade can cause serious injury.
20. **NEVER CUT FERROUS METALS** or masonry. Either of these can cause the carbide tips to fly off the blade at high speeds causing serious injury.
21. **NEVER CUT SMALL PIECES.** Cutting small pieces can cause your hand to move into the blade, resulting in serious injury.
22. **NEVER LOCK THE SWITCH** in the "ON" position. Setting up the next cut could cause your hand to move into the blade, resulting in severe injury.
23. **NEVER APPLY LUBRICANT** to a running blade. Applying lubricant could cause your hand to move into the blade, resulting in serious injury.
24. **DO NOT PERFORM FREE-HAND OPERATIONS**. Hold the work firmly against the fence and table. Free-hand operations on a miter saw could cause the workpiece to be thrown at high speeds, causing serious injury. Use clamps to hold the work when possible.
25. **AFTER COMPLETING CUT,** release power switch and wait for coasting blade to come to a complete stop before returning saw to raised position. A moving blade can cause serious injury.
26. **TURN OFF THE MACHINE** and allow the blade to come to a complete stop prior to cleaning the blade area or removing debris in the path of the blade. A moving blade can cause serious injury.
27. **TURN OFF MACHINE** and allow the blade to come to a complete stop before removing or securing workpiece, changing workpiece angle, or changing the angle of the blade. A moving blade can cause serious injury.
28. **PROPERLY SUPPORT LONG OR WIDE WORK-PIECES.** Loss of control of the workpiece can cause injury.
29. **NEVER PERFORM LAYOUT, ASSEMBLY, OR SET-UP WORK** on the table/work area when the machine is running. A sudden slip could cause a hand to move into the blade. Severe injury can result.
30. **TURN THE MACHINE "OFF",** disconnect the machine from the power source, and clean the table/work area before leaving the machine. **LOCK THE SWITCH IN THE "OFF" POSITION** to prevent unauthorized use. Someone else might accidentally start the machine and cause injury to themselves.
32. **BEFORE OPERATING THE SAW,** check and securely lock the bevel, miter, and sliding fence adjustments.
33. **ADDITIONAL INFORMATION** regarding the safe and proper operation of power tools (i.e. a safety video) is available from the Power Tool Institute, 1300 Sumner Avenue, Cleveland, OH 44115-2851 (www.powertoolinstitute.com). Information is also available from the National Safety Council, 1121 Spring Lake Drive, Itasca, IL 60143-3201. Please refer to the American National Standards Institute ANSI 01.1 Safety Requirements for Woodworking Machines and the U.S. Department of Labor regulations.

SAVE THESE INSTRUCTIONS.
Refer to them often and use them to instruct others.

POWER CONNECTIONS

A separate electrical circuit should be used for your machines. This circuit should not be less than #12 wire and should be protected with a 20 Amp time lag fuse. If an extension cord is used, use only 3-wire extension cords which have 3-prong grounding type plugs and matching receptacle which will accept the machine's plug. Before connecting the machine to the power line, make sure the switch is in the "OFF" position and be sure that the electric current is of the same characteristics as indicated on the machine. All line connections should make good contact. Running on low voltage will damage the machine.

⚠DANGER DO NOT EXPOSE THE MACHINE TO RAIN OR OPERATE THE MACHINE IN DAMP LOCATIONS.

MOTOR SPECIFICATIONS

Your machine is wired for 120 volt, 60 HZ alternating current. Before connecting the machine to the power source, make sure the switch is in the "OFF" position.

GROUNDING INSTRUCTIONS

⚠DANGER THIS MACHINE MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRIC SHOCK.

1. All grounded, cord-connected machines:

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding type plugs and matching 3-conductor receptacles that accept the machine's plug, as shown in Fig. A.

Repair or replace damaged or worn cord immediately.

2. Grounded, cord-connected machines intended for use on a supply circuit having a nominal rating less than 150 volts:

If the machine is intended for use on a circuit that has an outlet that looks like the one illustrated in Fig. A**,** the machine will have a grounding plug that looks like the plug illustrated in Fig. A**.** A temporary adapter, which looks like the adapter illustrated in Fig. B, may be used to connect this plug to a matching 2-conductor receptacle as shown in Fig. B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear, lug, and the like, extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box. Whenever the adapter is used, it must be held in place with a metal screw.

NOTE: In Canada, the use of a temporary adapter is not permitted by the Canadian Electric Code.

⚠DANGER IN ALL CASES, MAKE CERTAIN THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED. IF YOU ARE NOT SURE HAVE A QUALIFIED ELECTRICIAN CHECK THE RECEPTACLE.

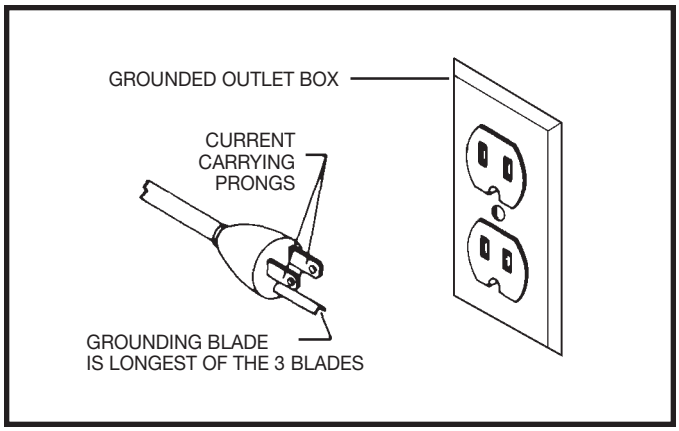

Fig. A

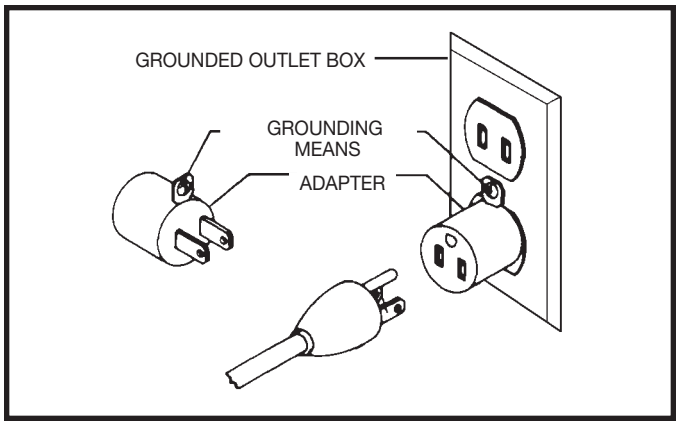

Fig. B

EXTENSION CORDS

CAUTION Use proper extension cords. Make sure your extension cord is in good condition and is a 3-wire extension cord which has a 3-prong grounding type plug and matching receptacle which will accept the machine's plug. When using an extension cord, be sure to use one heavy enough to carry the current of the machine. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating. Fig. D-1, shows the correct gauge to use depending on the cord length. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

MINIMUM GAUGE EXTENSION CORD

RECOMMENDED SIZES FOR USE WITH STATIONARY ELECTRIC MACHINES

Ampere Rating	Volts	Total Length of Cord in Feet	Gauge of Extension Cord
0-6	120	up to 25	18 AWG
0-6	120	25-50	16 AWG
0-6	120	50-100	16 AWG
0-6	120	100-150	14 AWG
6-10	120	up to 25	18 AWG
6-10	120	25-50	16 AWG
6-10	120	50-100	14 AWG
6-10	120	100-150	12 AWG
10-12	120	up to 25	16 AWG
10-12	120	25-50	16 AWG
10-12	120	50-100	14 AWG
10-12	120	100-150	12 AWG
12-16	120	up to 25	14 AWG
12-16	120	25-50	12 AWG
12-16	120	GREATER THAN 50 FEET NOT RECOMMENDED	

Fig. D-1

FUNCTIONAL DESCRIPTION

FOREWORD

Delta ShopMaster Model MS250 is a 10" Compound Power Miter Saw designed to cut wood, plastic, and aluminum. Compound angle and bevel cutting are easy and accurate. It can crosscut up to 5-3/4" x 2-3/8", miter at 45 both left and right 4-1/8" x 2-3/8", bevel at 45 left 5-7/8" x 1-9/16", and compound 45 x 45, 4-1/8" x 1-9/16". It has positive miter at 0, 22.5, 31.6, and 45 degrees both left and right, and bevel stops at 0 and 45 degrees adjustable.

UNPACKING AND CLEANING

Carefully unpack the machine and all loose items from the shipping container(s). Remove the protective coating from all unpainted surfaces. This coating may be removed with a soft cloth moistened with kerosene (do not use acetone, gasoline or lacquer thinner for this purpose). After cleaning, cover the unpainted surfaces with a good quality household floor paste wax.

NOTICE: THE MANUAL COVER PHOTO ILLUSTRATES THE CURRENT PRODUCTION MODEL. ALL OTHER ILLUSTRATIONS ARE REPRESENTATIVE ONLY AND MAY NOT DEPICT THE ACTUAL COLOR, LABELING OR ACCESSORIES AND MAY BE INTENDED TO ILLUSTRATE TECHNIQUE ONLY.

CARTON CONTENTS

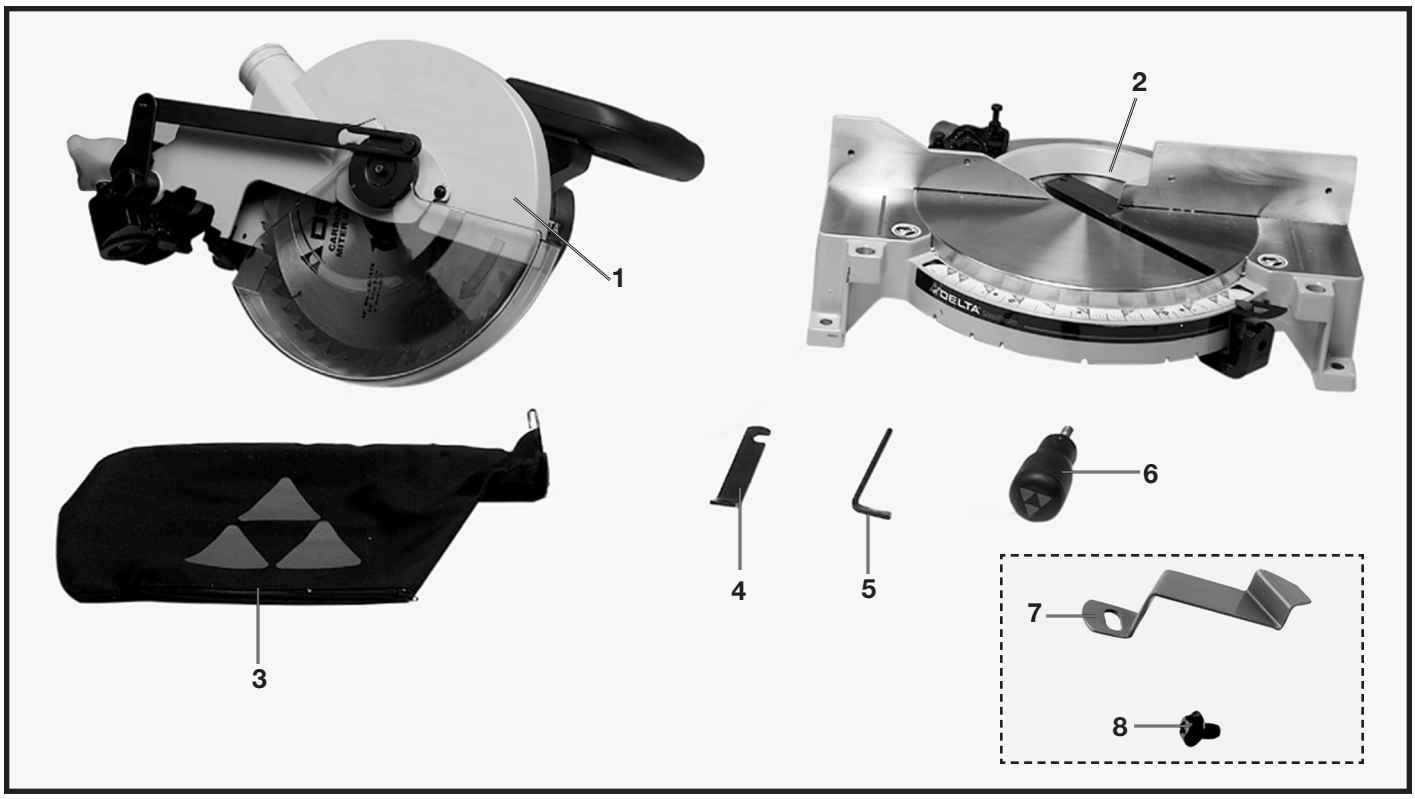

Fig. 1

Remove the miter saw and all loose items from the carton.

CAUTION **DO NOT LIFT THE MITER SAW BY THE SWITCH HANDLE. THIS ACTION CAN CAUSE MISALIGNMENT. ALWAYS LIFT THE MACHINE BY THE BASE OR THE CARRYING HANDLE.**

1. Miter Saw Arm
2. Miter Saw Base
3. Dust Bag
4. 1/2" Blade Wrench
5. 5mm Hex Wrench
6. Table Lock Handle
7. Bevel Pointer
8. M5x.8x10mm Pan Head Screw with a M5.3 Flat Washer

ASSEMBLY

⚠WARNING FOR YOUR OWN SAFETY, DO NOT CONNECT THE MACHINE TO THE POWER SOURCE UNTIL THE MACHINE IS COMPLETELY ASSEMBLED AND YOU READ AND UNDERSTAND THE ENTIRE INSTRUCTION MANUAL.

ATTACHING MITER SAW ARM TO BASE

⚠WARNING DISCONNECT MACHINE FROM POWER SOURCE.

1. Align the bevel lock handle screw (A) Fig. 2, on the miter saw arm with the bevel hub (B) on the base.

2. Thread the bevel lock handle screw (A) Fig. 2, into the bevel hub (B) by turning the bevel handle knob (K) Fig. 2A and tighten securely.

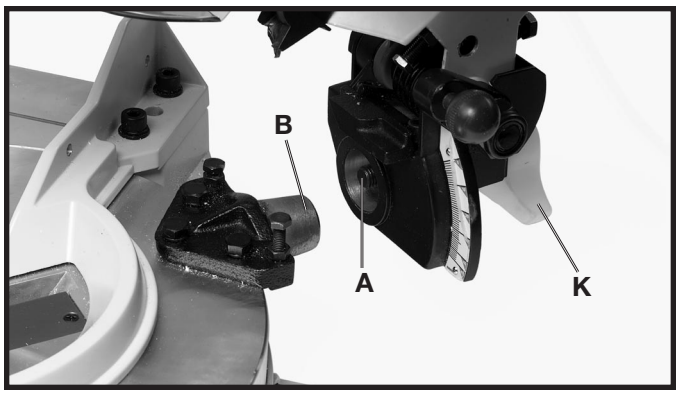

Fig. 2

ATTACHING BEVEL POINTER

⚠WARNING DISCONNECT MACHINE FROM POWER SOURCE.

1. Loosen the bevel lock handle (A) Fig. 2A, and tilt the miter saw arm to the 45 degree position as shown.

2. Align the hole in the bevel pointer (C) Fig, 2A, with the hole (D) in the back of the base.

3. Insert the M5x.8x10mm pan head screw with washer (B) through the hole in the bevel pointer (C) Fig. 2A, and thread the screw into the hole (D) in the back of the base and tighten securely. **NOTE: TO ADJUST THE POINTER SEE SECTION "ADJUSTING 90 AND 45 DEGREE BEVEL STOPS".**

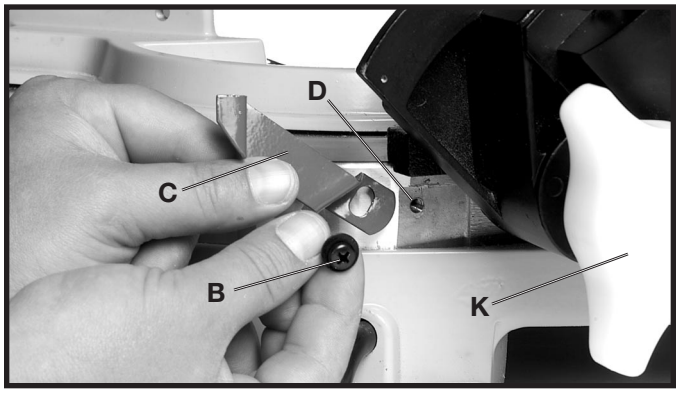

Fig. 2A

ATTACHING TABLE LOCK HANDLE

Thread table lock handle (A) Fig. 3 into the threaded hole (B) of the arm bracket.

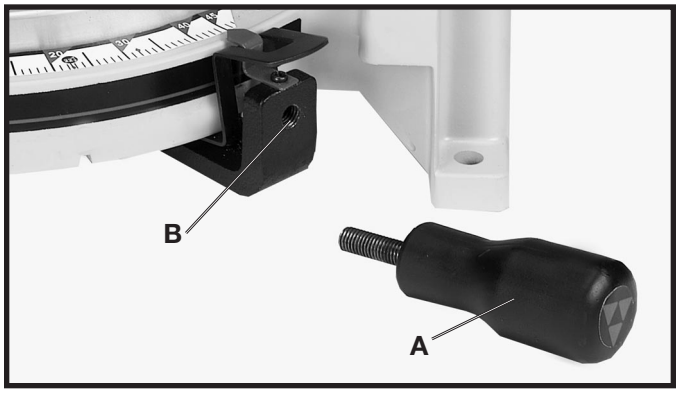

Fig. 3

ROTATING TABLE TO 90 DEGREE POSITION

1. Loosen table lock handle (A) Fig. 4 one or two turns and depress index lever (B) to release 45 degree positive stop.

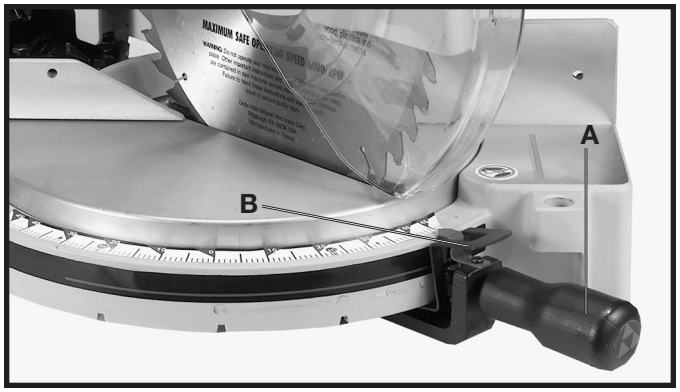

Fig. 4

2. Rotate table to the left until index stop engages with the 90 degree positive stop (Fig. 5). Tighten table lock handle (A).

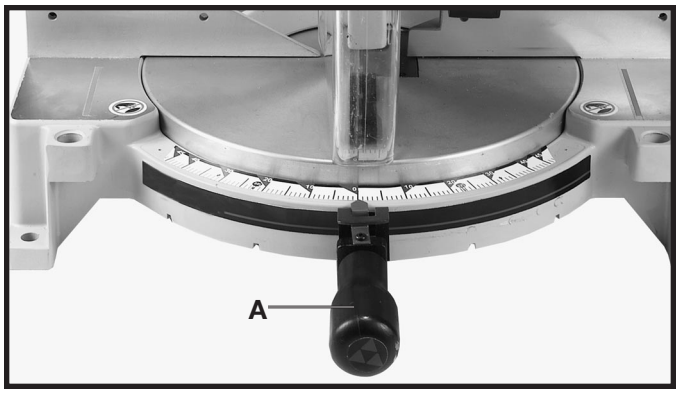

Fig. 5

MOVING CUTTINGHEAD TO THE UP POSITION

1. Push down on switch handle (A) Fig. 6, and pull out cuttinghead lock knob (B).

Fig. 6

2. Move the cuttinghead (C) to the up position (Fig. 7).

Fig. 7

ATTACHING DUST BAG

Attach dust bag (A) Fig. 8 to the dust spout (B) making sure the wire ring (C) is engaged with the ridge in the spout.

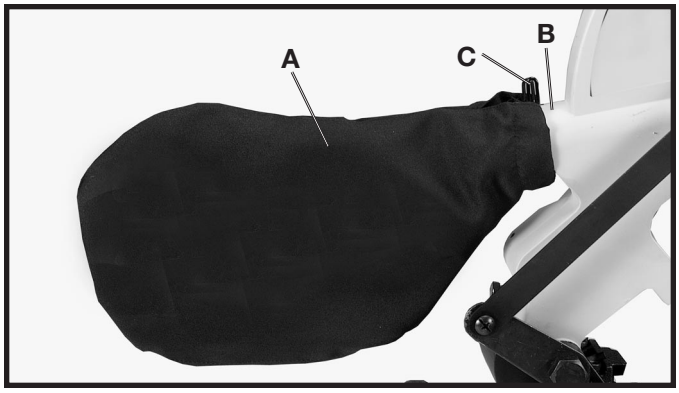

Fig. 8

FASTENING MACHINE TO SUPPORTING SURFACE

Before operating your compound miter saw, make sure it is firmly mounted to a sturdy workbench or other supporting surface. Four holes are provided, two of which are shown at (A) Fig. 9.

When frequently moving the saw from place to place, we suggest that the saw be mounted to a 3/4″ piece of plywood. The tool can then be easily moved from place to place and the plywood clamped to the supporting surface using “C” clamps.

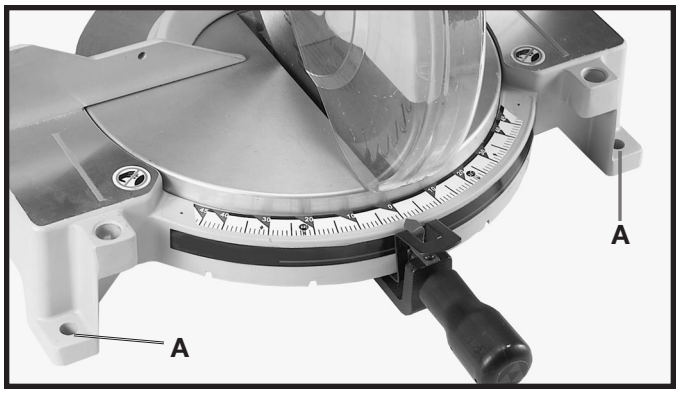

Fig. 9

OPERATING CONTROLS AND ADJUSTMENTS

TABLE HAZARD AREA

⚠WARNING THE AREA INSIDE THE TWO RED LINES (A) FIG. 10 ON THE TABLE IS DESIGNATED AS A HAZARD ZONE. NEVER PLACE YOUR HANDS INSIDE THIS AREA WHILE THE MACHINE IS RUNNING.

1. An optional work clamp (A) Fig. 11 is available. Use this accessory clamp, especially with short workpieces. Never allow your hands to be in the “Hazard Zone”.

2. Two holes (B) Fig. 10 are provided in the base of the miter saw, enabling you to use the clamp (A) Fig. 11 on either the right or left hand side of the saw blade.

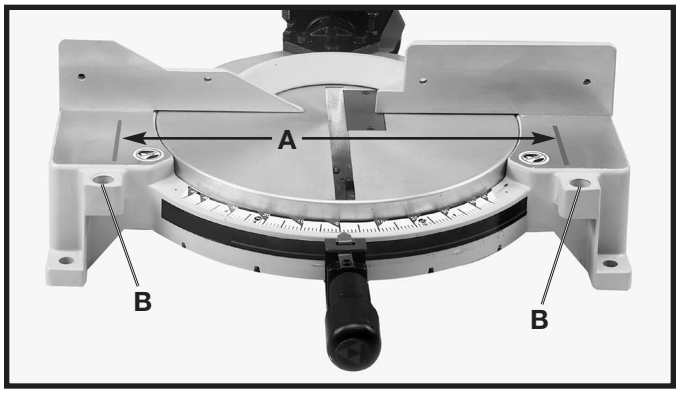

Fig. 10

⚠WARNING KEEP HANDS OUT OF PATH OF SAW BLADE. IF NECESSARY, CLAMP THE WORKPIECE IN PLACE BEFORE MAKING CUT.

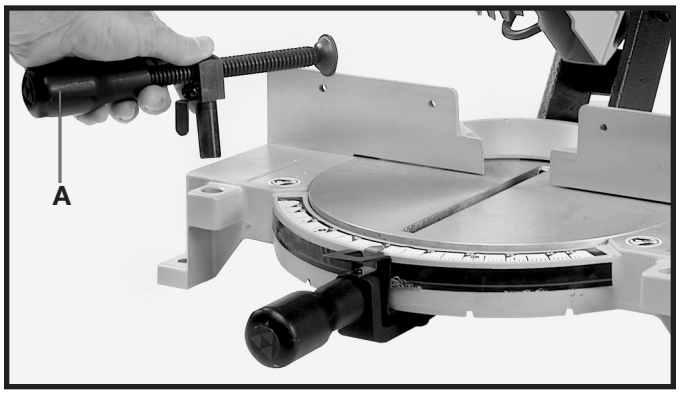

Fig. 11

STARTING AND STOPPING MITER SAW

To start the miter saw, depress switch trigger (A) Fig. 12. To stop the miter saw, release the switch trigger.

This saw is equipped with an automatic electric blade brake. As soon as the switch trigger (A) Fig. 12, is released, the electric brake is activated and stops the blade in seconds.

⚠WARNING A TURNING SAW BLADE CAN BE DANGEROUS. AFTER COMPLETING CUT, RELEASE SWITCH TRIGGER (A) FIG. 12, TO ACTIVATE BLADE BRAKE. KEEP CUTTINGHEAD DOWN UNTIL BLADE HAS COME TO A COMPLETE STOP.

⚠WARNING THE TORQUE DEVELOPED DURING BRAKING MAY LOOSEN THE ARBOR SCREW. THE ARBOR SCREW SHOULD BE CHECKED PERIODICALLY AND TIGHTENED IF NECESSARY.

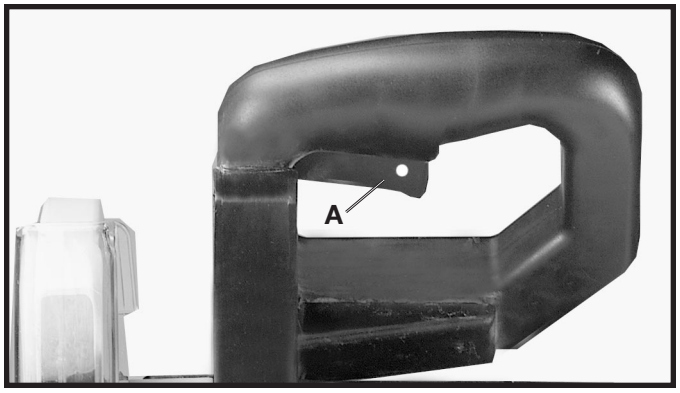

Fig. 12

LOCKING SWITCH IN THE "OFF" POSITION

IMPORTANT: When the miter saw is not in use, the switch should be locked in the OFF position using a padlock (B) Fig. 13, with a 3/16" diameter shackle to prevent unauthorized use of the saw.

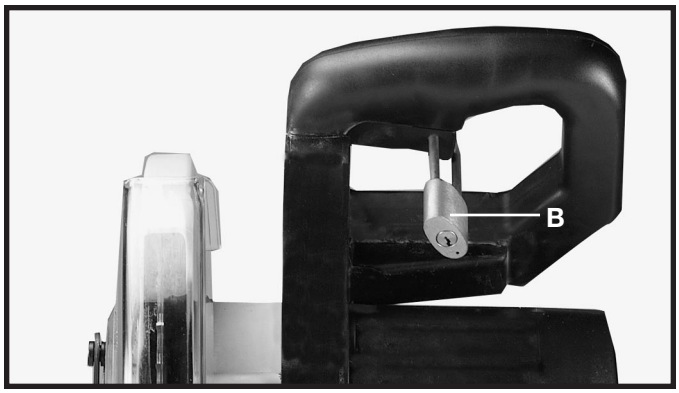

Fig. 13

ROTATING TABLE FOR MITER CUTTING

Your miter saw will cut any angle from a straight 90 degree cut to 47 degrees right and left. Loosen lock handle (A) Fig. 14 one or two turns, depress index lever (B), and move the control arm to the desired angle. **TIGHTEN LOCK HANDLE (A)**.

The miter saw is equipped with positive stops at the 0, 22.5, 31.6, and 45 degree right and left positions. Loosen lock handle (A) Fig. 14, and move the control arm until the bottom of the index lever (B) engages into one of the positive stops, four of which are shown at (C). **TIGHTEN LOCK HANDLE (A)**. To disengage the positive stop, depress index lever (B).

In addition, a triangle indicator (D) Fig. 16 is provided on the miter scale at the 31.6 degrees right and left miter positions for cutting crown moulding. (Refer to the **"CUTTING CROWN MOULDING"** section of this manual).

IMPORTANT: ALWAYS TIGHTEN LOCK HANDLE (A) FIG. 15 BEFORE CUTTING.

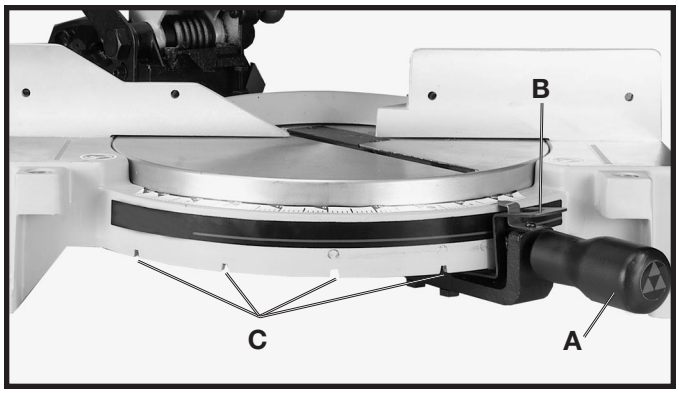

Fig. 14

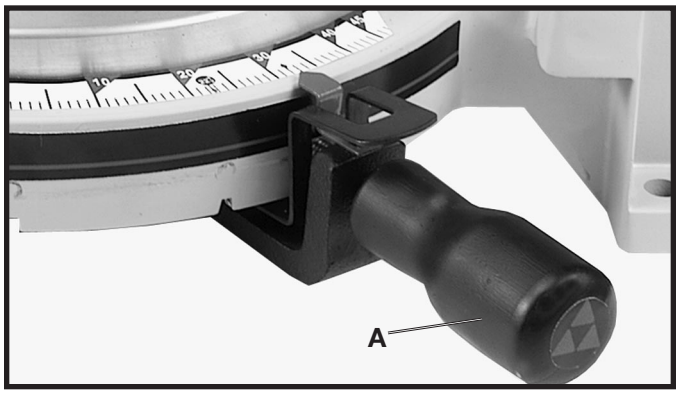

Fig. 15

POINTER AND SCALE

A pointer (E) Fig. 16 is supplied to indicate the actual angle of cut. Each line on the scale (F) represents 1 degree. When the pointer is moved from one line to the next on the scale, the angle of cut is changed by 1 degree.

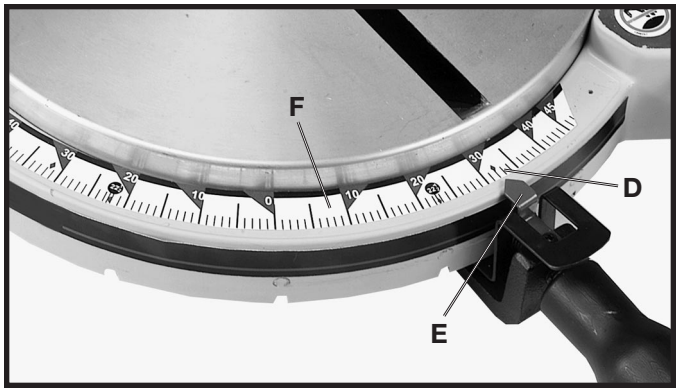

Fig. 16

ADJUSTING POINTER

If it becomes necessary to adjust the pointer (E) Fig. 17, loosen screw (G), adjust the pointer (E) accordingly, and tighten screw.

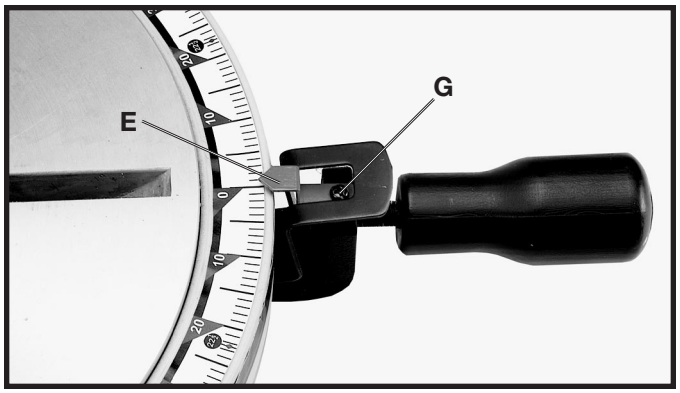

Fig. 17

LOCKING CUTTINGHEAD IN THE DOWN POSITION

When transporting the saw, the cuttinghead should always be locked in the down position. Lower the cutting arm (A) Fig. 18, and push in plunger (B) until other end of plunger (B) engages with hole in cutting arm. **IMPORTANT: CARRYING THE MACHINE BY THE SWITCH HANDLE WILL CAUSE MISALIGNMENT. ALWAYS LIFT THE MACHINE BY THE BASE OR BY THE CARRYING HANDLE (See Fig. 21)**.

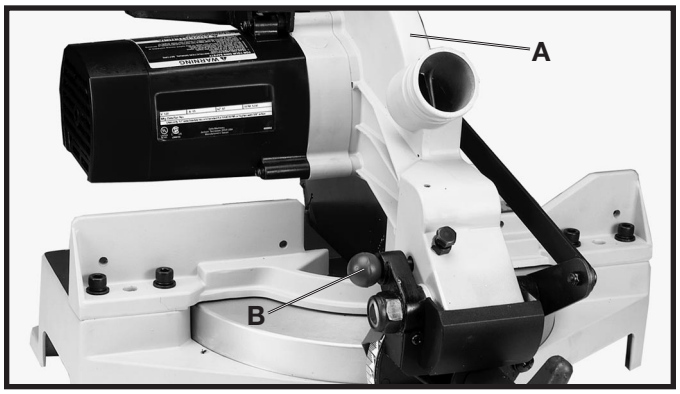

Fig. 18

TILTING CUTTINGHEAD FOR BEVEL CUTTING

The cuttinghead of your compound miter saw can be tilted to cut any bevel angle from a 90 degree straight cut off to a 45 degree left bevel angle. Loosen bevel lock handle (A) Fig. 19, tilt cutting arm (B) to the desired angle, and tighten lock handle (A).

Positive stops are provided to rapidly position the saw blade at 90 and 45 degrees to the table. Refer to the section of this manual titled **"ADJUSTING 90 AND 45 DEGREE BEVEL STOPS."** The bevel angle of the cutting arm is determined by the position of the pointer (C) Fig. 19 on the scale (D).

In addition, a triangle indicator is provided on the bevel scale at the 33.9 degree bevel angle for cutting crown moulding. Refer to the **"CUTTING CROWN MOULDING"** section of this manual.

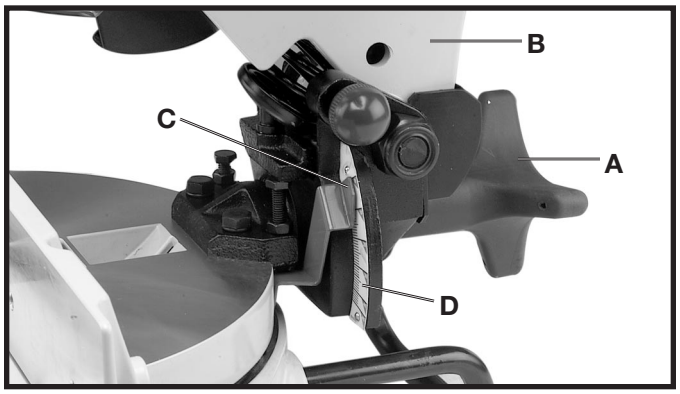

Fig. 19

REAR SUPPORT/CARRYING HANDLE

A rear support bar (A) Fig. 20 is provided to prevent the machine from tipping to the rear when the cuttinghead is returned to the up position. For maximum support the bar (A) should be pulled out as far as possible.

The support bar (A) Fig. 21 can also be used to carry the machine.

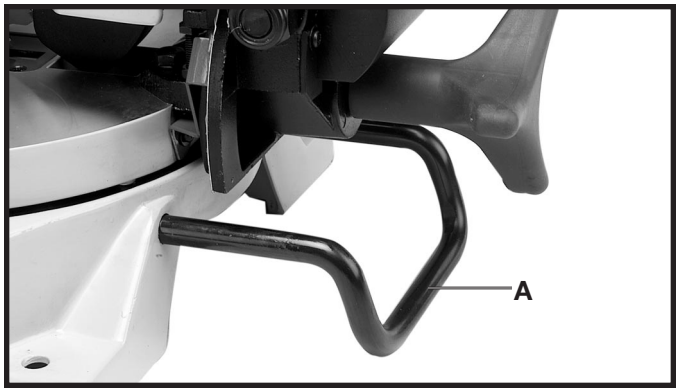

Fig. 20

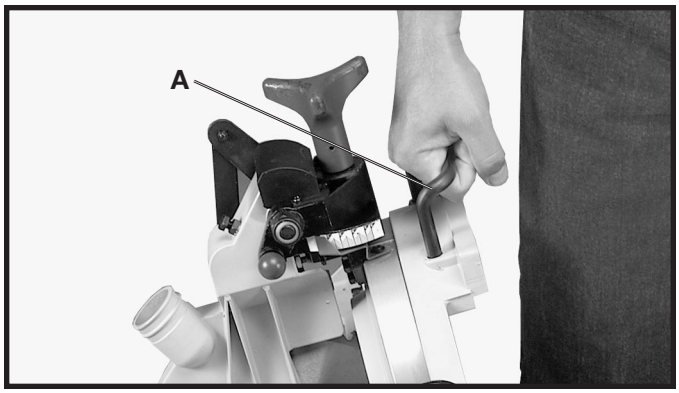

Fig. 21

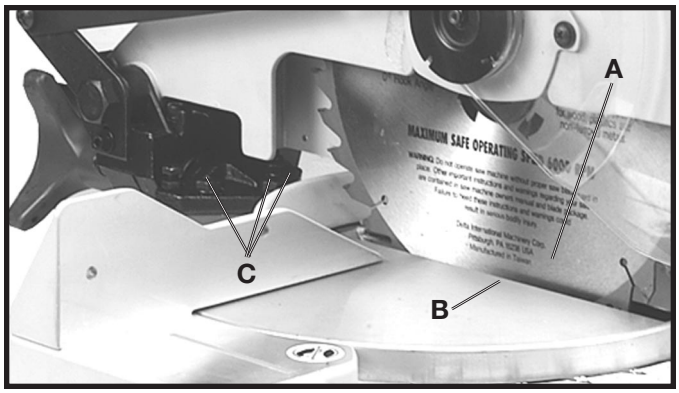

Fig. 22

ADJUSTING BLADE PARALLEL TO TABLE SLOT

⚠WARNING DISCONNECT MACHINE FROM POWER SOURCE.

1. Lower the cutting arm. The saw blade (A) Fig. 22 should be parallel to the left edge (B) of the table opening.

2. If an adjustment is necessary, loosen three screws (C) Fig. 22 and move the cutting arm until the blade is parallel with the left edge (B) of the table opening and centered in the slot. Then tighten the three screws (C).

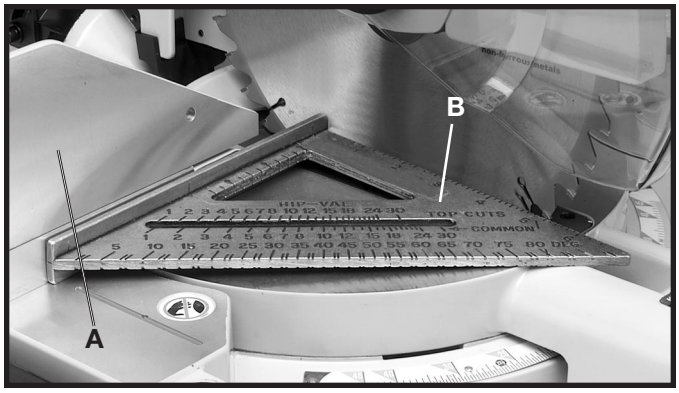

Fig. 23

ADJUSTING FENCE 90 DEGREES TO BLADE

If the fence (A) Fig. 23 is removed from the saw, re-adjust it after replacement so that it is 90 degrees to the blade as follows:

⚠WARNING DISCONNECT MACHINE FROM POWER SOURCE.

1. Place one end of the square (B) Fig. 23 against the fence (A) and the other end against the blade.

2. To adjust, loosen the four screws (C) Fig. 24, and adjust fence 90 degrees to the blade. Tighten the four screws (C).

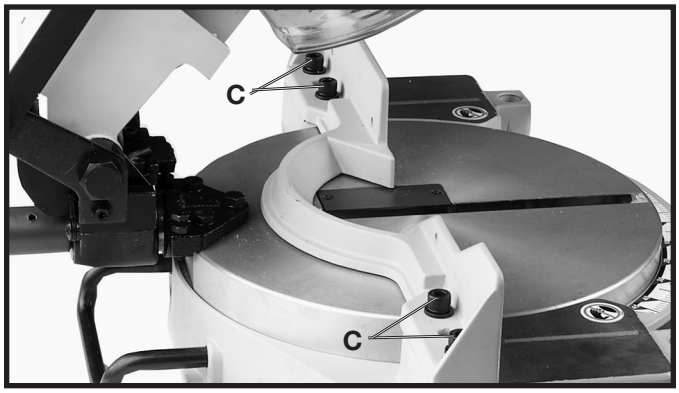

Fig. 24

ADJUSTING DOWNWARD TRAVEL OF SAW BLADE

⚠WARNING DISCONNECT MACHINE FROM POWER SOURCE.

1. The downward travel of the saw blade should be limited to prevent the saw blade from contacting any metal surfaces of the machine. This adjustment is made by loosening locknut (A) Fig. 25, and turning adjusting screw (B) in or out.

2. Lower the blade as far as possible. Rotate the blade by hand to make certain the teeth do not contact any metal surfaces and adjust if necessary.

3. After the downward travel of the saw blade has been adjusted, tighten locknut (A)

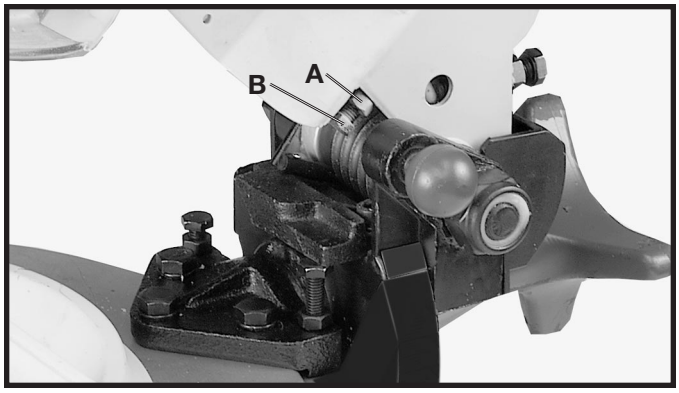

Fig. 25

ADJUSTING 90 AND 45 DEGREE BEVEL STOPS

⚠WARNING DISCONNECT MACHINE FROM POWER SOURCE.

1. Loosen bevel lock handle and move the cutting arm all the way to the right. Tighten the bevel lock handle.

2. Place one end of a square (A) Fig. 26 on the table and the other end against the blade. Check to see if the blade is 90 degrees to the table (Fig. 26).

Fig. 26

3. If an adjustment is necessary, loosen locknut (B) Fig. 27, and turn screw (C) until head of screw (C) contacts casting (D) when blade is 90 degrees to the table. Then tighten locknut (B).

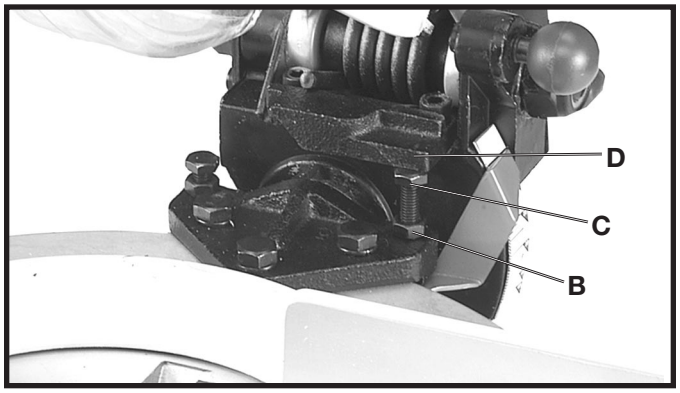

Fig. 27

4. Loosen bevel lock handle and move the cutting arm all the way to the left bevel position and tighten bevel lock handle.

5. Use a combination square (A) Fig. 28, to see if the blade is at 45 degrees to the table, as shown.

6. If an adjustment is necessary, loosen locknut (E) Fig. 29, and turn screw (F) until screw (F) contacts casting (G) when blade is 45 degrees to the table. Then tighten locknut (E).

7. Check to see that the bevel pointer P Fig. 29A, is pointing to the 45 degree mark on the bevel scale (S) Fig. 28. To adjust the bevel pointer P Fig. 29A, loosen the screw (H) and adjust pointer (P) and tighten screw (H) securely.

8. These positive stops enable you to rapidly position the blade at the 90 and 45 degree bevel angle to the table.

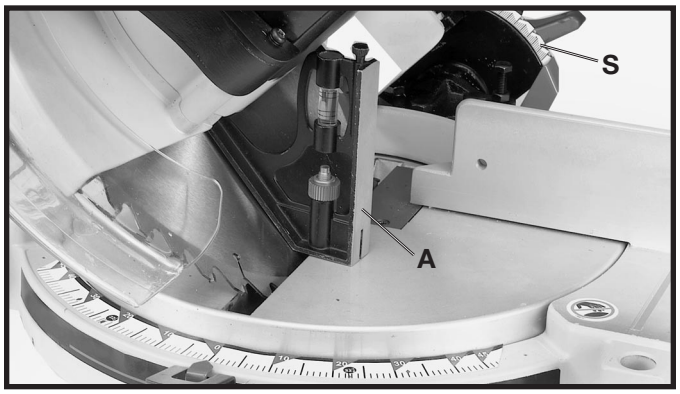

Fig. 28

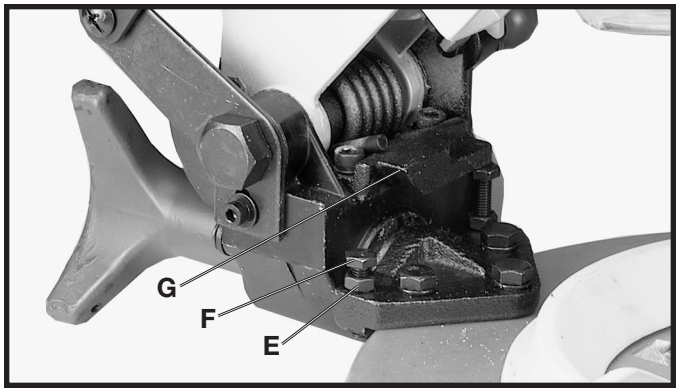

Fig. 29

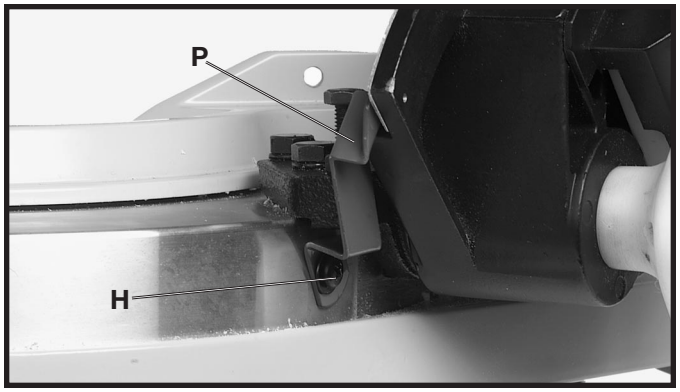

Fig. 29A

ADJUSTING TENSION OF CUTTINGHEAD RETURN SPRING

The tension of the cuttinghead return spring has been adjusted at the factory so that the cuttinghead returns to the up position after a cut has been made. If it becomes necessary to re-adjust the spring tension, proceed as follows:

⚠WARNING DISCONNECT MACHINE FROM POWER SOURCE.

Loosen locknut (A) Fig. 30 and turn screw (B) clockwise to increase or counterclockwise to decrease the spring tension. After the spring tension has been adjusted, tighten locknut (A).

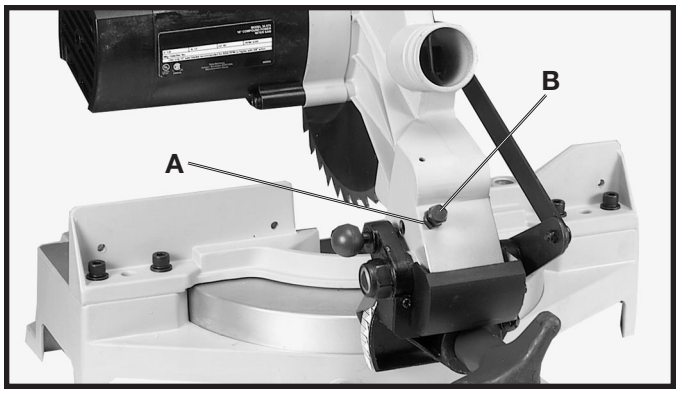

Fig. 30

TYPICAL OPERATIONS AND HELPFUL HINTS

1. Before cutting, make certain the cutting arm and table are at their correct settings and firmly locked in place.

2. Place the workpiece on the table and hold or clamp it firmly against the fence. Fig. 31 illustrates an accessory work clamp (A). The clamp (A) can also be used on the right side of the machine (See Fig. 10).

3. **⚠WARNING** If the workpiece causes your hand to be within the hazard zone of of the saw blade, clamp the workpiece in place before making cut.

4. For best results, cut at a slow, even cutting rate.

5. Never attempt freehand cutting (wood that is not held firmly against the fence and table).

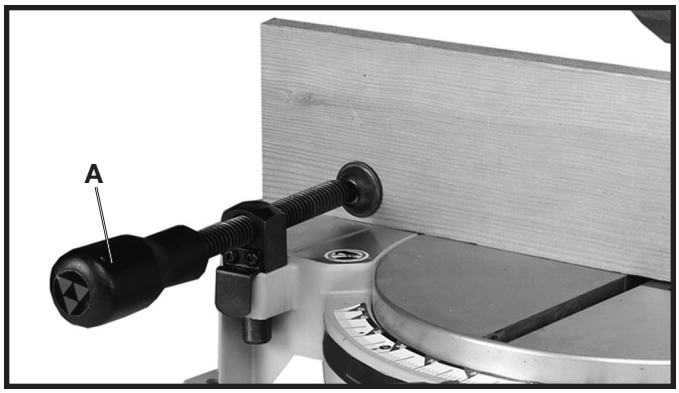

Fig. 31

AUXILIARY WOOD FENCE

⚠WARNING When performing multiple or repetitive cut-off operations that result in small cut-off pieces, one inch or less, it is possible for the saw blade to catch the cut-off pieces and project them out of the machine or into the blade guard and housing, possibly causing damage or injury. To limit the possibility of personal injury or blade guard damage, an auxiliary wood fence can be mounted to your saw.

Holes are provided in the fence to attach an auxiliary fence (A) Fig. 32. This auxiliary fence is constructed of straight wood approximately 1/2" thick by 3" high by 20" long. **NOTE:** The auxiliary fence (A) is used **ONLY** with the saw blade in the 0 degree bevel position (90 degrees to the table). When bevel cutting (blade tilted), the auxiliary fence will have to be removed.

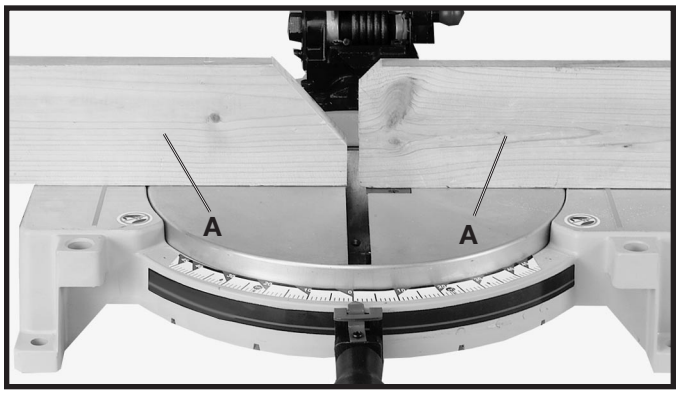

Fig. 32

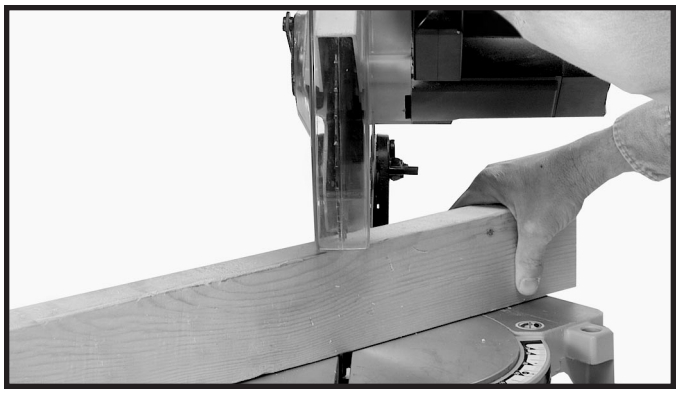

Fig. 33A

Fig. 33B

GENERAL CUTTING OPERATIONS

1. Your machine has the capacity to cut standard 2 x 4's lying flat or on edge, at the 45 degree right and left miter angles (Fig. 33A).

2. A standard 2 x 6 can be cut in the 90 degree straight cut-off position in one pass (Fig. 33C) or at 45 degree right or left miter angles (Fig. 33C).

3. Cutting a standard 4 x 4 can be accomplished with one pass (Fig. 33D).

4. This machine has the capacity to accurately cut crown moldings and other bevel-type cuts (Fig. 33E).

4. Cutting various sizes of plastic pipe is an easy job with this machine (Fig. 33F).

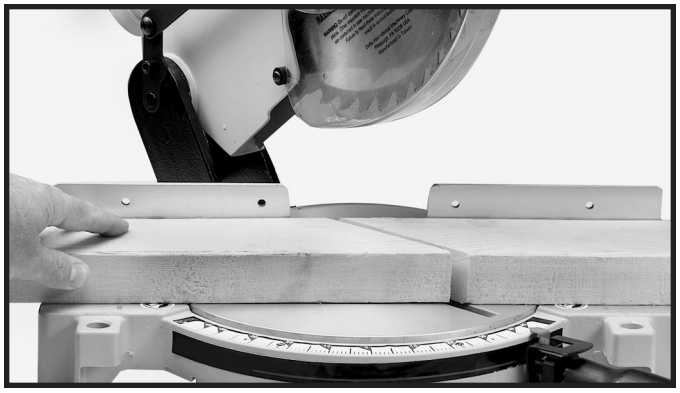

Fig. 33C

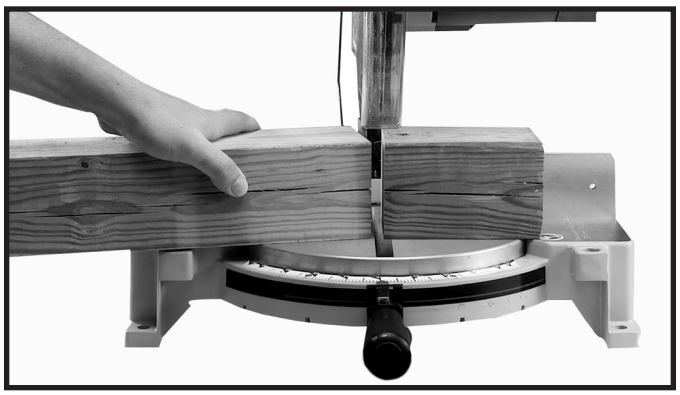

Fig. 33D

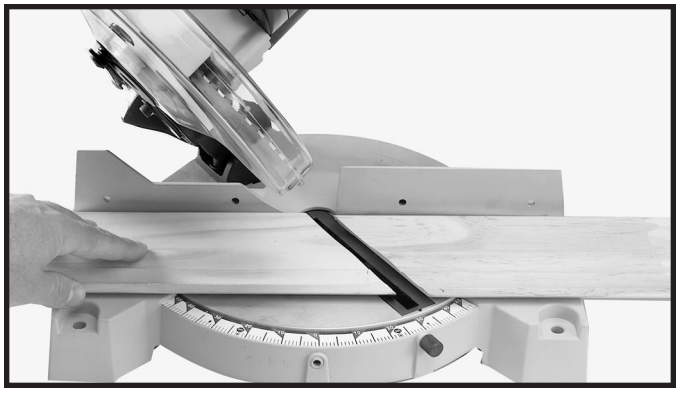

Fig. 33E

Fig. 33F

CUTTING ALUMINUM

Aluminum extrusions such as used for making aluminum screens and storm windows can easily be cut with your compound miter saw. When cutting aluminum extrusions, or other sections that can be cut with a saw blade and are within the capacity of the machine, position the material so the blade is cutting through the smallest cross-section (Fig. 34). The wrong way to cut aluminum angles is illustrated in Fig. 35. Be sure to apply a stick wax to the blade before cutting aluminum stock. This stick wax is available at most industrial mill supply houses. The wax provides proper lubrication and keeps chips from adhering to the blade.

⚠WARNING **NEVER APPLY LUBRICANT TO THE BLADE WHILE THE MACHINE IS RUNNING**.

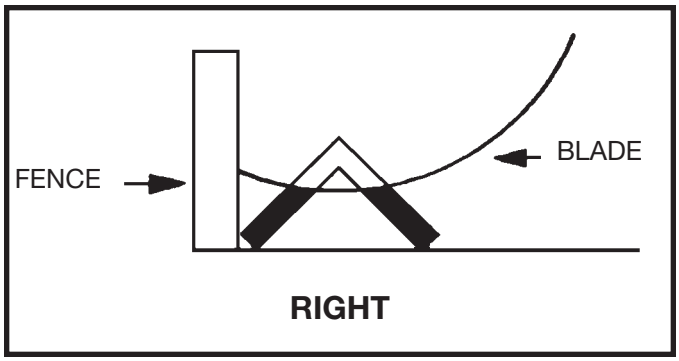

Fig. 34

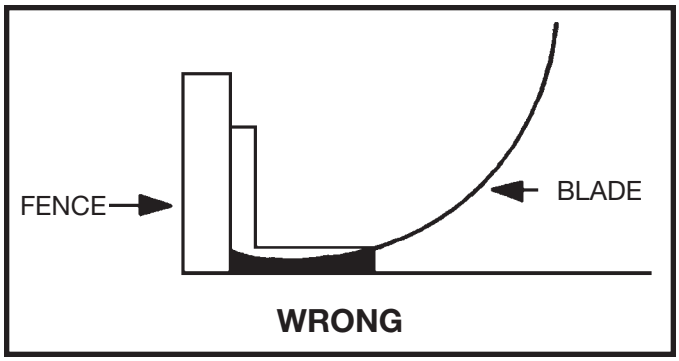

Fig. 35

CUTTING BOWED MATERIAL

When cutting flat pieces, first check to see if the material is bowed. If it is, make sure the material is positioned on the table as shown in Fig. 36.

If the material is positioned the wrong way, as shown in Fig. 37, the workpiece will pinch the blade near the completion of the cut.

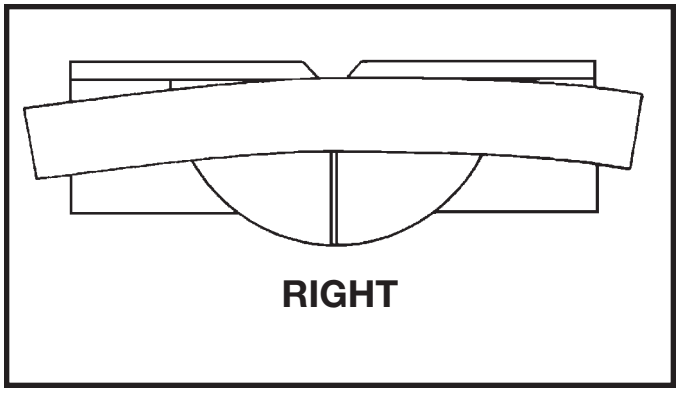

Fig. 36

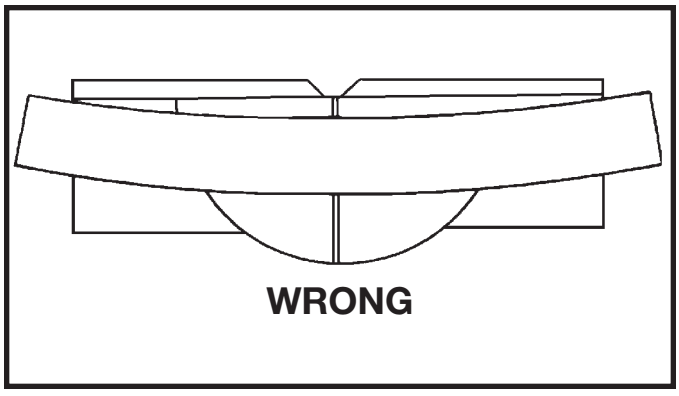

Fig. 37

CUTTING CROWN MOULDING

One of the many features of your saw is the ease of cutting crown moulding.The following is an example of cutting both inside and outside corners on 52/38 degree wall angle crown moulding. **NOTE:** When cutting 45 degree wall angle crown moulding, the following procedure for inside and outside corners is the same with the exception that the bevel position will always be at 30 degrees and the miter position will be 35.25 degrees to the right or left.

1. Move the table to the 31.6 degree right miter position and lock the table in position. **NOTE:** A triangle indicator is provided on the miter scale to find this angle quickly (Fig. 38)

2. Tilt the saw blade to the 33.9 degree left bevel position and tighten bevel lock handle. **NOTE:** A triangle indicator is provided on the bevel scale to find this angle quickly (Fig. 39).

3. Place the crown moulding on the table with the **CEILING EDGE** of the moulding against the fence, and make the cut (Fig. 38). **NOTE:** The piece of crown moulding used for the outside corner will always be on the right hand side of the blade (A) Fig. 38. The piece of crown moulding used for the inside corner will always be on the left hand side of the blade (B) Fig. 38.

4. To make the matching halves of the inside and outside corners, rotate the table to the 31.6 degree left miter position and tighten table lock handle. **NOTE:** A triangle indicator is provided on the miter scale to find this angle quickly (Fig. 39).

5. Place the crown moulding on the table with the **WALL EDGE** of the crown moulding against the fence and make the cut. Again, the piece of crown moulding used for the outside corner will always be on the right side of the blade (C) Fig. 39. The piece of crown moulding used for the inside corner will always be on the left side of the blade (D) Fig. 39.

6. Fig. 40 illustrates the two outside corner pieces - (A) being the piece cut at (A) Fig. 38, and (C) being the piece cut at (C) Fig. 39.

7. Fig. 41 illustrates the two inside corner pieces - (B) being the piece cut at (B) Fig. 38, and (D) being the piece cut at (D) Fig. 39.

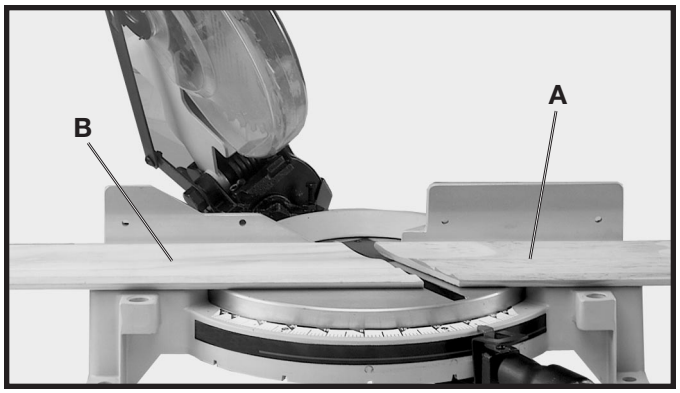

Fig. 38

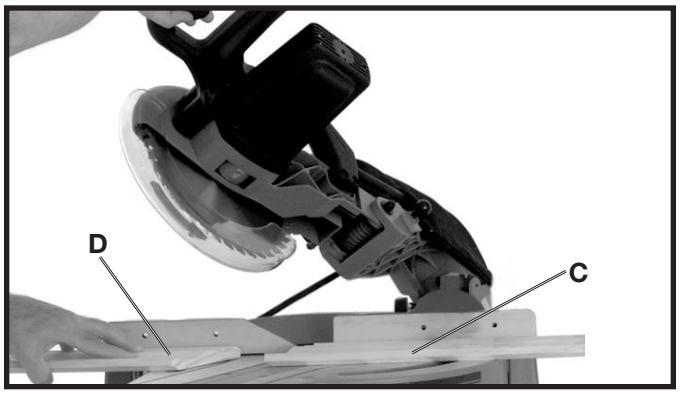

Fig. 39

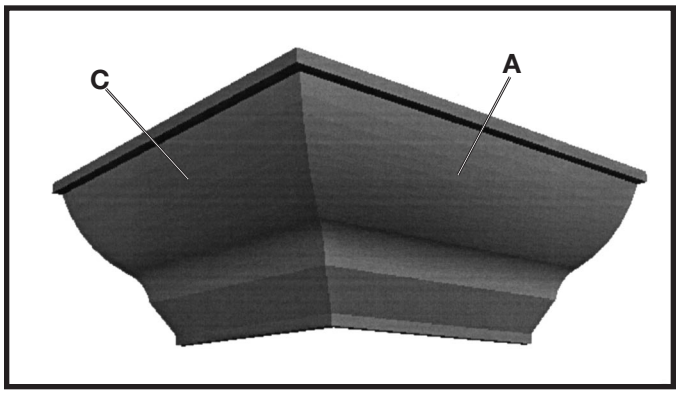

Fig. 40

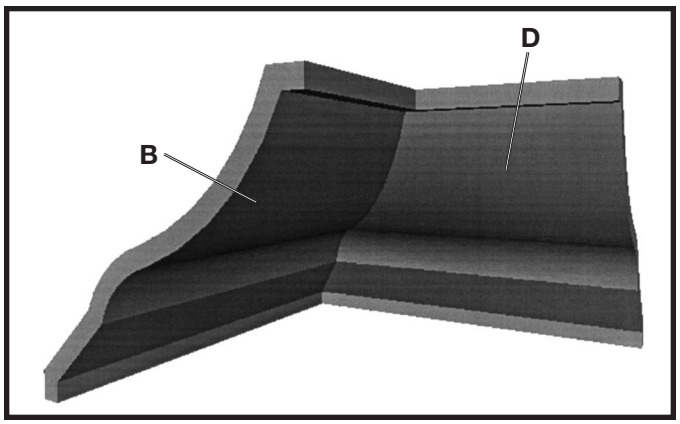

Fig. 41

MAINTENANCE

CHANGING THE BLADE

⚠WARNING **USE ONLY CROSS-CUTTING SAW BLADES.**

⚠WARNING **WHEN USING CARBIDE TIPPED BLADES, DO NOT USE BLADES WITH DEEP GULLETS AS THEY CAN DEFLECT AND CONTACT THE GUARD.**

⚠WARNING **USE ONLY 10″ DIAMETER SAW BLADES WHICH ARE RATED FOR 5200 RPM OR HIGHER AND HAVE 5/8″ DIAMETER ARBOR HOLES.**

⚠WARNING **DISCONNECT MACHINE FROM POWER SOURCE**.

1. Remove screw (A) Fig. 42 and rotate cover (B) to the rear (Fig. 43).

Fig. 42

Fig. 43

2. To remove the saw blade, insert hex wrench (C) Fig. 44 into the hex hole located on the rear end of the motor shaft to keep the shaft from turning.

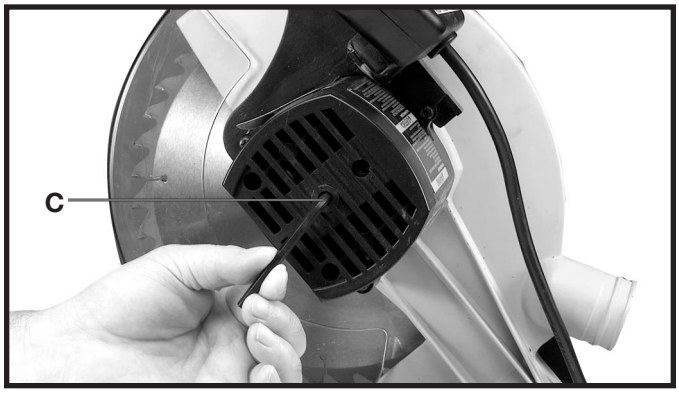

Fig. 44

3. Use a wrench (G) Fig. 45 to loosen arbor screw (E) by turning it clockwise.

4. Remove arbor screw (E) Fig. 45, outside blade flange (F), and saw blade from saw arbor.

5. Attach new saw blade **MAKING CERTAIN TEETH OF SAW BLADE ARE POINTING DOWN AT THE FRONT.** Re-attach outside blade flange (F) Fig. 45, and arbor screw (E) by turning it counterclockwise using wrench (G) Fig. 45. At the same time, use hex wrench (C) Fig. 44 to keep the arbor from turning.

6. Replace screw and cover that was rotated to the rear in **STEP 1.**

⚠WARNING **REMOVE WRENCHES (C) FIG. 44 AND (G) FIG. 45 BEFORE STARTING MACHINE.**

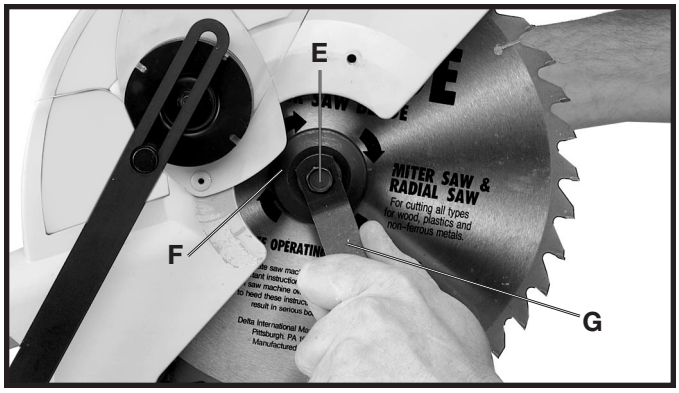

Fig. 45

BRUSH INSPECTION AND REPLACEMENT

Brush life varies. It depends on the load on the motor. Check the brushes after the first 50 hours of use for a new machine or after a new set of brushes has been installed. After the first check, examine them after about 10 hours of use until such time that replacement is necessary. To inspect the brushes, proceed as follows:

⚠WARNING DISCONNECT MACHINE FROM POWER SOURCE.

1. Remove three screws (A) Fig. 46 and remove motor cover (B).

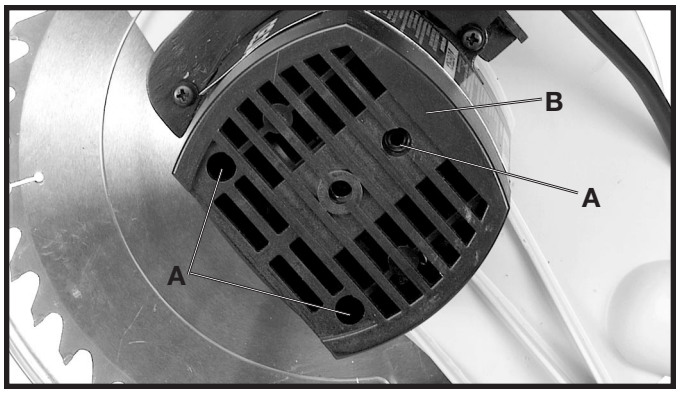

Fig. 46

2. The brushes are located in the two holders (C) Fig. 47. Remove spade type terminal connector (D) and pull out brush holders (C).

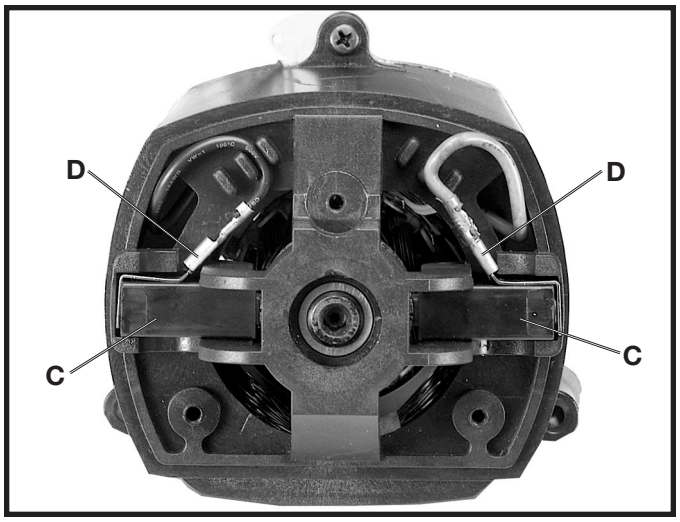

Fig. 47

3. Fig. 48 illustrates one of the brushes (E) removed from the holder (C). When the carbon on either brush (E) is worn to 3/16″ in length or if either spring (F) or shunt wire is burned or damaged in any way, replace both brushes. If the brushes are found to be serviceable after re-moving, reinstall them in the same position.

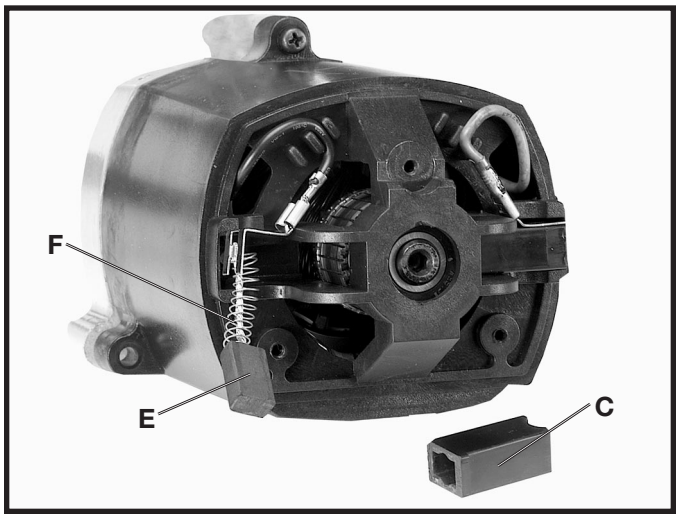

Fig. 48

NOTES

ACCESSORIES

A complete line of accessories is available from your Delta Supplier, Porter-Cable • Delta Factory Service Centers, and Delta Authorized Service Stations. Please visit our Web Site **www.deltamachinery.com** for a catalog or for the name of your nearest supplier.

⚠WARNING Since accessories other than those offered by Delta have not been tested with this product, use of such accessories could be hazardous. For safest operation, only Delta recommended accessories should be used with this product.

PARTS, SERVICE OR WARRANTY ASSISTANCE

All Delta Machines and accessories are manufactured to high quality standards and are serviced by a network of Porter-Cable • Delta Factory Service Centers and Delta Authorized Service Stations. To obtain additional information regarding your Delta quality product or to obtain parts, service, warranty assistance, or the location of the nearest service outlet, please call 1-800-223-7278 (In Canada call 1-800-463-3582).

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